

SPECIFICATIONS AND APPLICATION NOTES

January 29, 2001

MicroBlue™ 2.4

2.4 GHz Microsphere Technology

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Technology

The **MicroBlue 2.4 Microsphere Antenna** is a versatile and easy to use antenna for the 2.4 to 2.5 GHz frequency band used by Bluetooth and IEEE 802.11 devices. Designed for easy connection to radio cards, it can be successfully used in many different applications.



MicroBlue 2.4 shown here with standard 8 inches of RG-178 coax and right angle MMCX connector

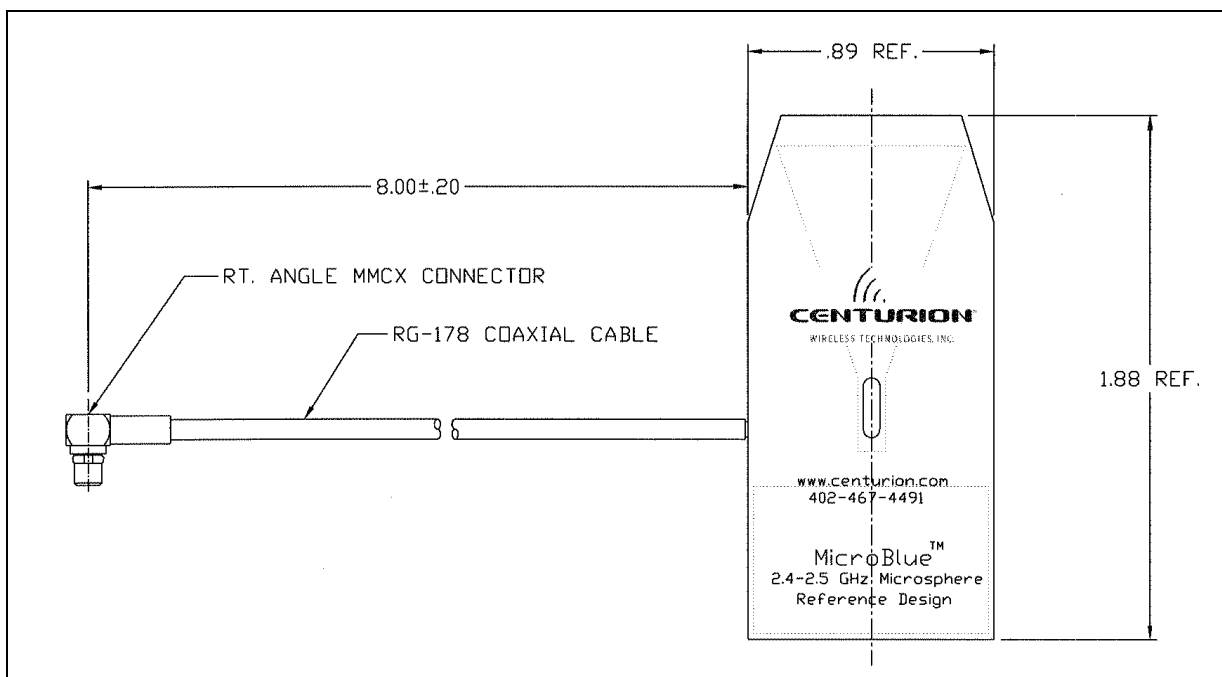
The antenna utilizes Centurion's patented PCB Microsphere technology. It is designed to be fed by a 50-ohm coaxial cable terminated by an RF coaxial connector.

This antenna has a ground plane incorporated into the resonator structure, therefore no additional ground plane is required to radiate efficiently. However, the configuration of the device in which the MicroBlue antenna is installed can have an impact on electrical performance (VSWR and gain). The polarization and radiation patterns can also be affected by placement of the antenna and geometry of the device. Contact Centurion Wireless for engineering assistance with your custom application.

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Physical Dimensions



Standard Product Specifications:

Part Number: CAF94131

MicroBlue Size: .89" x 1.88" x .032" (w x l x t)

Standard Cable: RG-178 (MIL-C17) Coaxial Cable x 8" Long

Standard Connector: Right-Angle MMCX Plug

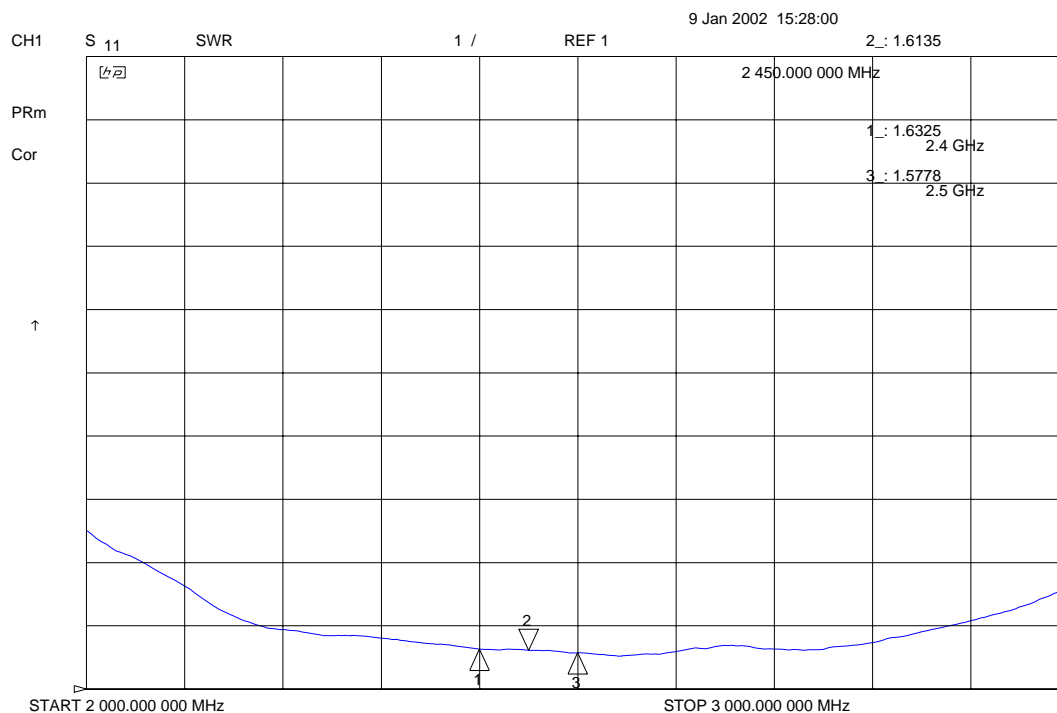
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Electrical Performance

- VSWR < 1.8:1 from 2.4 GHz to 2.5 GHz
- 2:1 VSWR Bandwidth > 600 MHz
- Peak Gain (Elev. Phi=0) > 0.5 dBi, Average Gain (Elev. Phi=0) > -3 dBi
- Peak Gain (Elev. Phi=90) > 1.5 dBi, Average Gain (Elev. Phi=90) > -2.5 dBi
- Peak Gain (Azimuth) > 1 dBi, Average Gain (Azimuth) > 0 dBi

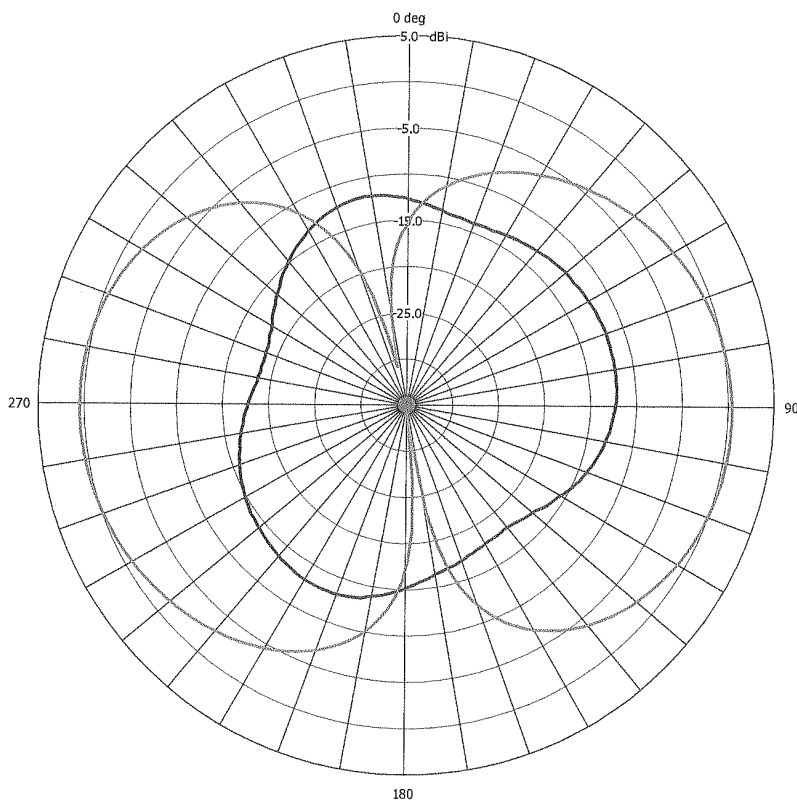
(All Electrical data based on standard product tested in free space)



SWR Pattern from 2000 to 3000 MHz

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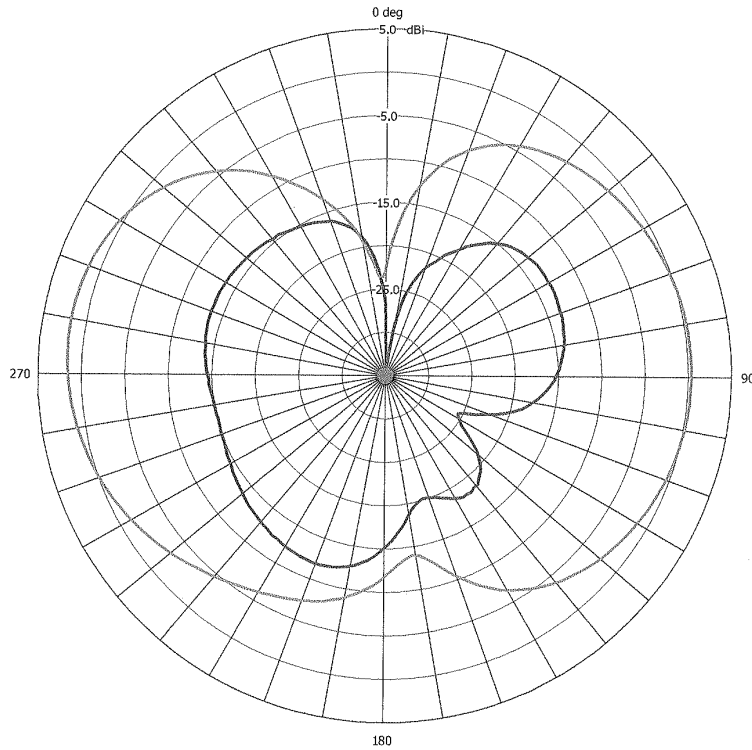
Plot Legend	Max. Gain dBi	Avg. Gain dBi	Max. Angle deg.
ANTENNA MICRO BLUE	-12.0	-14.2	69.6
N/A, Free Space EI Plane, phi=0 2450.0MHz; E-Phi Pol Mon Jan 07 16:27:55 2002			
ANTENNA MICRO BLUE	0.5	-2.9	93.5
N/A, Free Space EI Plane, phi=0 2450.0MHz; E-Theta Pol Mon Jan 07 16:29:26 2002			

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Elevation Plane, Phi = 0, Gain Pattern at 2450 MHz

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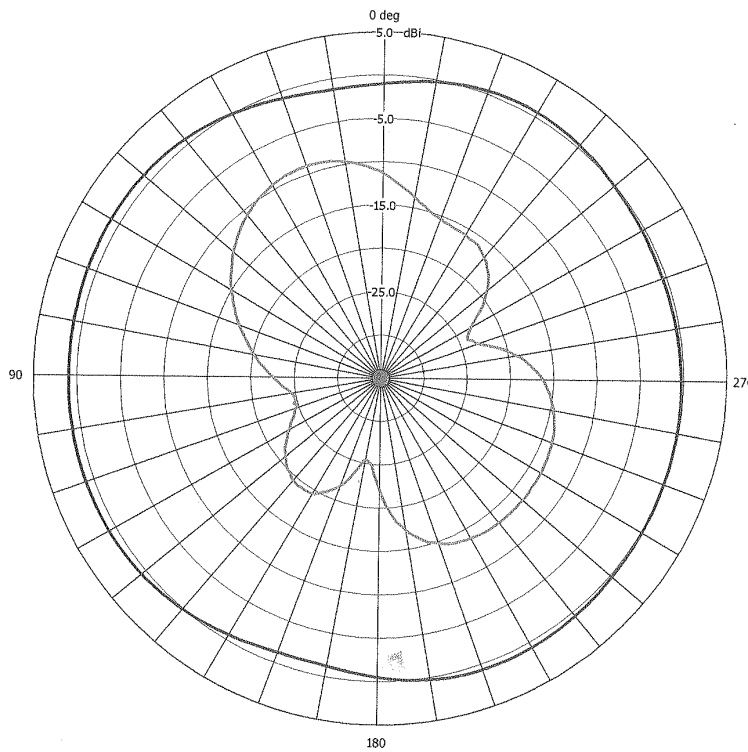
Plot Legend	Max. Gain dBi	Avg. Gain dBi	Max. Angle deg.
ANTENNA MICRO BLUE	-11.8	-15.3	198.9
N/A, Free Space EI Plane, phi=90 2450.0MHz; E-Phi Pol Mon Jan 07 16:32:35 2002	1.8	-2.3	276.5
ANTENNA MICRO BLUE			
N/A, Free Space EI Plane, phi=90 2450.0MHz; E-Theta Pol Mon Jan 07 16:34:07 2002			

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Elevation Plane, Phi = 90, Gain Pattern at 2450 MHz

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Plot Legend	Max. Gain dBi	Avg. Gain dBi	Max. Angle deg.
ANTENNA MICRO BLUE	1.1	0.2	61.6
N/A, Free Space Az Plane 2450.0MHz; E-Theta Pol Mon Jan 07 16:22:01 2002			
ANTENNA MICRO BLUE	-9.0	-14.8	21.9
N/A, Free Space Az Plane 2450.0MHz; E-Phi Pol Mon Jan 07 16:23:30 2002			

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Azimuth Plane, Gain Pattern at 2450 MHz

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